TEG®
HEMOSTASIS ANALYZER

Service Manual

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Chapter 1

TEG® Analyzer Maintenance

Quality Assurance Overview

The TEG® analyzer has been shown to be a reproducible and reliable clinical tool when a good quality assurance program that includes proper phlebotomy techniques and sample handling is followed.

This section describes methods that provide comprehensive quality assurance for the TEG® analyzer based on the recommendation of the Clinical Laboratory Improvement Act of 1988 (CLIA) and the excellent performance standards of the TEG® analyzer. Following these methods assures users and their patients of reliable performance of their instruments.

Laboratory Techniques and Precautions

The use of a standardized method for the collection and handling of specimens is of utmost importance to ensure that TEG® results are reproducible and reliable. Haemoscope Corporation recommends that the user follow locally established procedures for the collection and handling of specimens. Everyone using the TEG® analyzer should be familiar with standard laboratory procedures, techniques, and precautions, particularly those that affect hematological testing, as well as with the operation and precautions for the TEG® analyzer, and how samples are applied and removed. Users should also abide by Federal, State, and local guidelines for assuring quality control in clinical laboratories.

These laboratory techniques and precautions include:

- ❒ Maintaining training and proficiency testing schedules, and recording results in personnel files.
- ❒ Observing safety requirements for handling blood.
- ❒ Using the two-syringe technique by the phlebotomists (described in the *User Manual*) to eliminate tissue fluids or contamination of catheter lines.
- ❒ Avoiding heparin contamination. If the catheter line is loaded with heparin or coated with heparin, a heparin-like TEG® tracing will result unless precautions are taken to eliminate the heparin either before or after the

phlebotomy. We strongly recommend the use of heparinase to eliminate heparin contamination.

- ❒ Avoiding clot activation in the drawn sample by exposure to glass. The blood from the plastic syringe must be transferred to a plastic test tube only, unless the glass vial has been siliconized to prevent activation.
- ❒ Adhering to the time intervals established for native whole blood analysis. Blood samples should be placed on the TEG® analyzer at 4 minutes after withdrawal if they have not been sodium citrated or heparinized for longer storage.
- ❒ Avoiding touching of the working surfaces of the disposable cups and pins before sample applications.

Finally, an effective quality assurance program requires that you keep and regularly review records. The TEG® software is set up to maintain these records and even to transfer QC data to statistical computer packages for analysis.

General Quality Control

Quality control for the TEG® analyzer consists of the following areas:

- ❒ Maintenance and function checks
- ❒ Calibration and calibration verification
- ❒ Control procedures

Each of these quality control areas is discussed in the following sections.

Maintenance and function checks

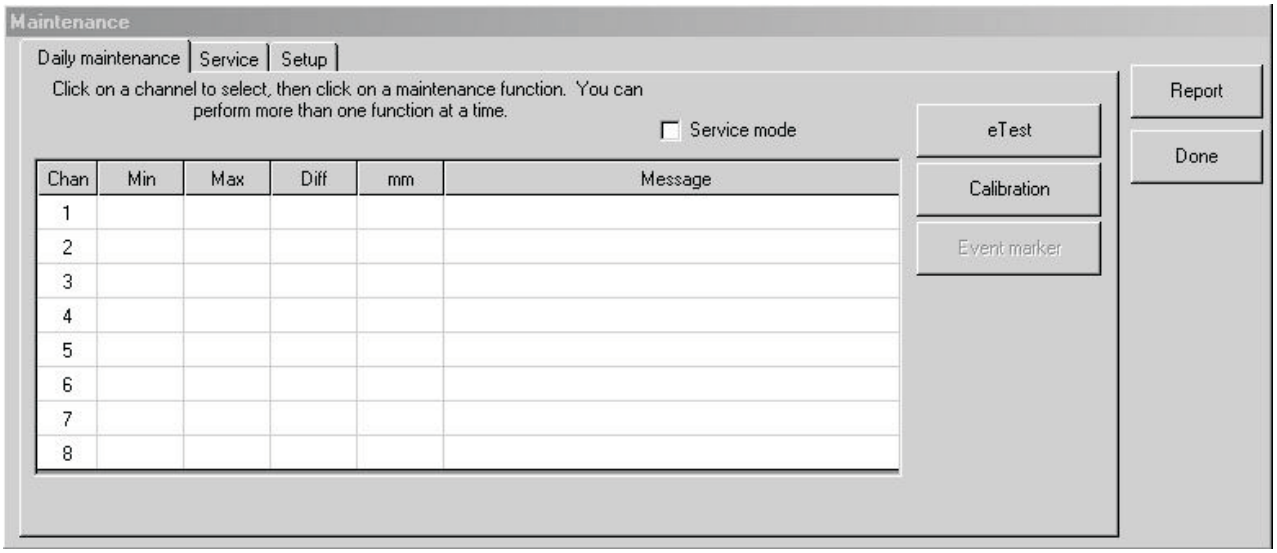
Mechanical, electronic, and operational checks verify the proper test performance and test results reporting for the TEG® analyzer.

General

General information on the Maintenance submenu is given below. If you need information on other settings or functions of the software, please consult the User Guide.

Select Maintenance from the Options entry on the Main Menu.

The Maintenance submenu will appear.



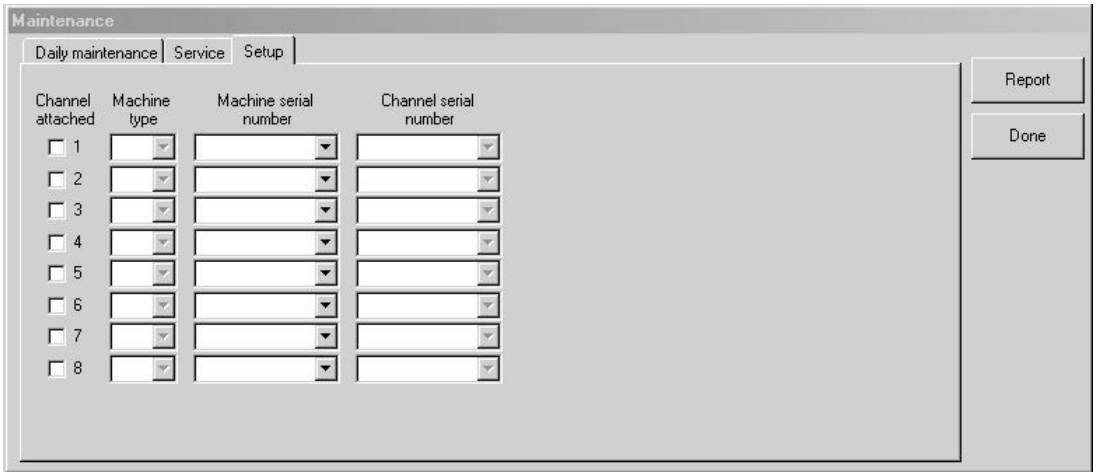
If the service mode box is checked, then no information from this tab will be stored in the database. Any final messages received before the check box is selected, or after it is unselected, will not be stored.

- Any attached channel can have eTest or Calibration done. Only those channels that are attached to a 3000 (see setup menu) can do an Event Marker test.
- Tabbing will select subsequent channels.
- F9 will start eTest on the selected channel.
- Any data in a channel when it has a final message (for example, "eTest out of range" or "Calibration is OK" will be stored in the configuration database, unless the Service mode check box is selected.
- If no machine type is selected for a channel when a function is started, the user will be prompted to select a machine type.

Setup Menu

Before working with the Daily Maintenance Menu, you must use Setup to set up information on the attached channels. Click the Setup tab to display the Setup Menu:

In this menu, the first thing that you must enter (if it is blank) is the machine serial number. Any machine without a serial number cannot be used.

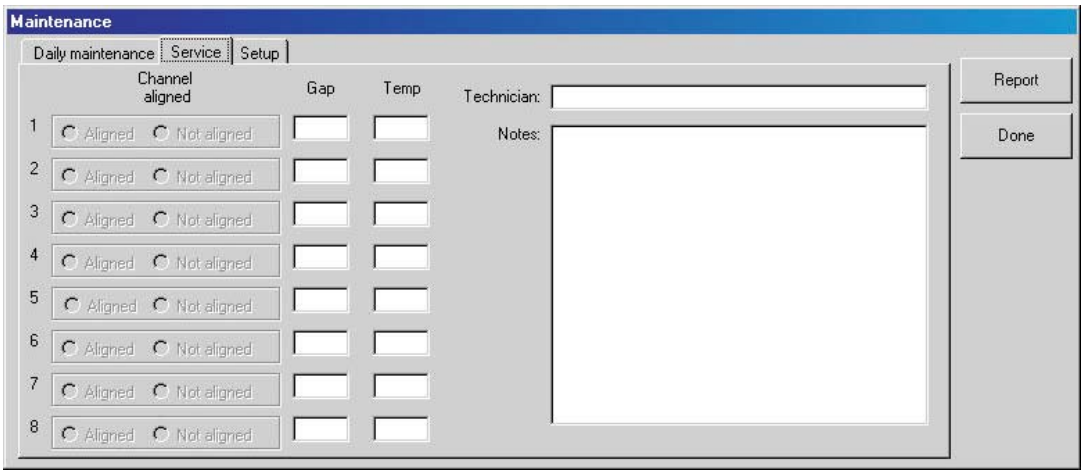


- Once the machine serial number is entered, you must indicate the channels attached in order to be able to run samples or maintenance on those channels.
- Machine type is optional at this point. If it is not entered, then the user will be prompted when trying to do maintenance.
- For machine type, machine serial number and channels attached, any entry is mirrored on its "partner" channel. So if channel 1 is clicked, then channel 2 also gets clicked. If you enter a serial number into channel 4, then it is automatically entered into channel 5.
- Channel serial number is completely optional.

Service Tab

Click on the Service tab to display the Service Submenu.

Nothing on this tab is mandated by the software. It may be required by regulatory rules, or it can be used to record work done during an in-service, but the software does not re-



quire it. If this data is entered, and then the Maintenance tab is re-entered on the same day, the same record should be used, with any new data overwriting existing data.

- ❒ By default, all channels are aligned.
- ❒ Gap and temperature must be numbers.
- ❒ Due to a software issue, on the report the gap will be rounded to the nearest tenth.
- ❒ Any channel not attached will not be selectable.

About Undo

Undo will undo the last data change you made. It will not work once you leave a screen (i.e. if you delete a sample, then go to the main screen, you cannot undo the deletion).

It will only undo the last change made and cannot undo starting or stopping samples. It also cannot undo maintenance functions (i.e., it cannot undo an eTest).

Mechanical

Alignment of the TEG® columns and calibration of the analyzer verify and/or maintain the mechanical functioning of the analyzer. These mechanical function tests and adjustments are performed at least semi-annually by trained TEG® users or Haemoscope technicians.

Electrical/Electronic

Periodic eTest determination/adjustment of the TEG® analyzer verifies and/or maintains the electronic functioning of the analyzer. The frequency, materials, and procedure for TEG® electronics testing are described in the next section.

Electronics Testing

Frequency:
(eTest)

- ❒ Daily.
  Whenever the biological controls do not produce results within the specified ranges, the first troubleshooting test is to check the eTest.

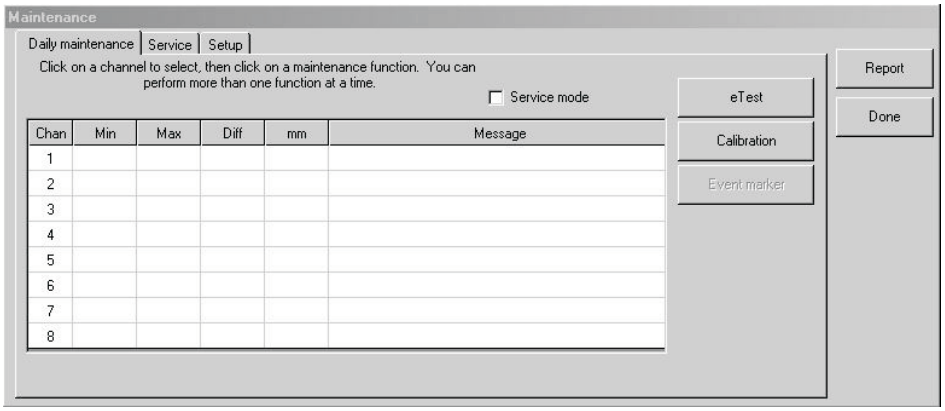
Materials needed:

- ❒ trimmer adjustment tool (provided by Haemoscope Corp.)

Procedure:

1. Select Maintenance from the Options entry on the Main Menu.

Select a channel and machine type, enter the serial number(s) of ana-



lyzer(s) if not already entered, then click eTest.

2. Make sure the analyzer is level and move the lever to the test position.
3. Wait until the program issues the eTest status message.

Message	Cause/Remedy
Not at equilibrium	It might be due to environmental factors or too much vibration. The analyzer might be unsteady and should be stabilized.
eTest out of range	Adjust it with the trimmer adjustment tool using the adjusting screws on the back of the analyzer labeled BASE that correspond to the column you are working on. See figure 1. The analyzer is labeled with arrows indicating which way to turn the screw to increase the reading. Turn in the opposite direction to decrease it.

When the reading is within the normal range of 1800-2300, the computer issues the message:

```
eTest is OK
```

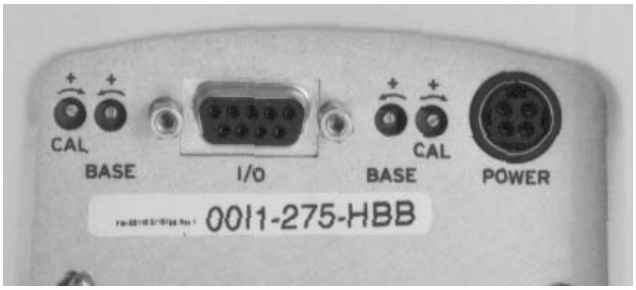



Figure 1. Back of analyzer

If the eTest is OK, check the next channel until all are tested before you begin running samples.

If you have problems adjusting the baseline readings to within range, see page 19.

Operational

Use of biological controls serve as the operational check for the analyzer and are the basis for monitoring the quality control of the analyzer. See the section named Control Procedures below.

Documentation

As part of the normal quality assurance protocol, these checks should be documented so they are readily available for review.

Calibration and calibration verification

As mentioned in the Maintenance and Function Checks section above, calibration testing and adjustments to the analyzer are performed at least semi-annually by trained TEG® users or Haemoscope technicians.

Calibration verification is the assaying of calibration materials in the same manner as patient samples to verify the calibration of the instrument. Use of biological controls serve as the calibration verification for the analyzer. See the section named Control Procedures below.

Control procedures

Use of biological controls, which serve as the operational check and calibration verification, is the basis for monitoring quality control of the analyzer and should be run each shift (or more often, according to your institution's policy) before running other samples to assure that all machine settings are within range. Biological controls should be run each shift to provide a standard of reference for normal and abnormal coagulation patterns. See the description of these controls in the section named "Biological control output," in the chapter named "Quality Assurance" in the TEG® User Manual.

The software automatically maintains the QC data in a separate database (unless this option is overridden by the user profile).

Samples from a group of 10 to 20 “normal control individuals” should be analyzed annually to provide a normal reference range. These individuals should be healthy and not taking any medications such as aspirin, NSAIDs, or birth control pills, etc., which affect hemostasis. If the statistical analysis results do not correspond to those released by Haemoscope Corporation, please contact us.

Quality assurance summary

These testing and checking procedures combined with an effective training and proficiency testing program form a comprehensive program of quality assurance for the accuracy of the electrical and mechanical output of the TEG® analyzer and the reproducibility of the data, and assure compliance of the entire system.

CLIA compliance

Compliance with current CLIA regulations, as regarding the TEG® analyzer, is easily accomplished by simply adhering to the following operational checks and maintenance guidelines:

❒ ***Daily:***

- Biological controls (operational and calibration verification)
  Print tracings, sign, and file.
  - Level I (normal) control sample run
  - Level II (abnormal) control sample run

  The sample run is considered satisfactory if three out of the four coagulation parameters (R, K, α, and MA) are within the ranges specified in the product insert.
- eTest testing (electronic)

❒ ***Every six months***:

- Align analyzer following procedure beginning on page 10
- Calibrate analyzer following procedure beginning on page 16
- eTest check (or more frequently as described on page 2) following procedure beginning on page 5
- Temperature check following procedure on page 21

Hardware Maintenance

The following sections describe the maintenance steps that should be performed at the recommended intervals on the TEG® analyzer:

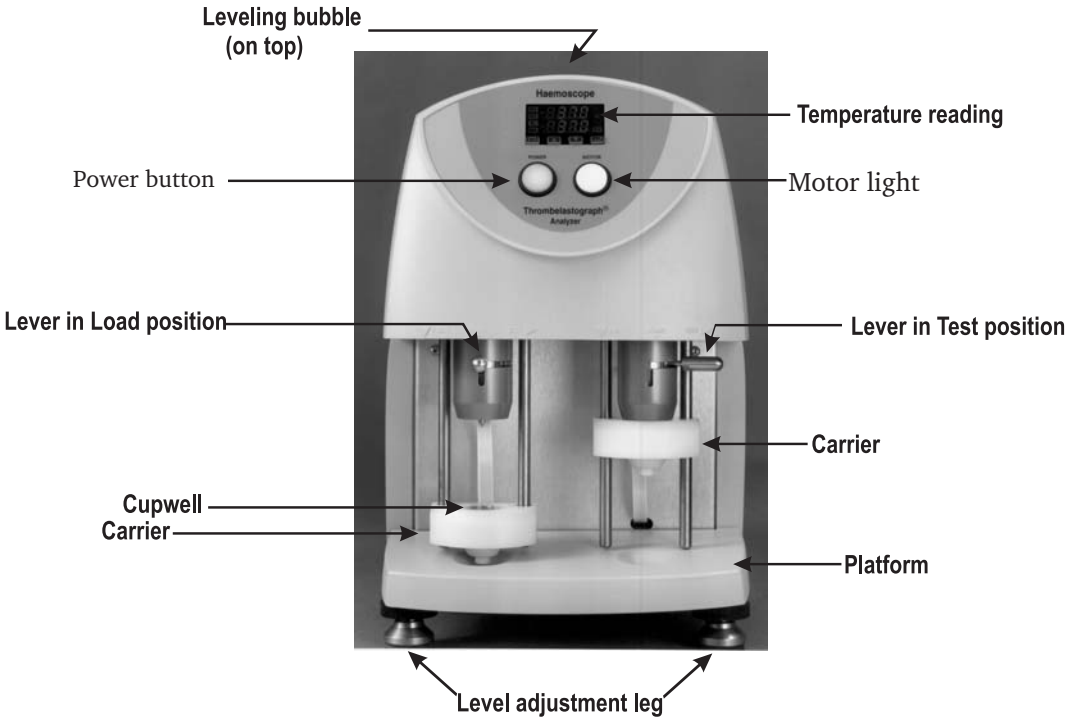


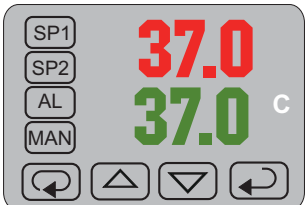
Figure 2. TEG® analyzer Model 5000 series

Startup and Leveling

Refer to the picture of the TEG® analyzer (Figure 2) for the location of the parts referenced here:

1. Turn on the TEG® analyzer by pressing the green power button.
2. Level the TEG® analyzer according to the bubble level at the top of the machine by adjusting the thumbscrews at the bottom front (left and right) and back (center) of the TEG® machine.
3. Check that the numbers on the temperature controller in the front panel are increasing to 37.0°C ± 5.0°(or whatever the set temperature, if set to other than 37.0°C). If not, contact your local service representative. Note that the red light indicator (top) monitors column 1

(left) and the green (bottom) monitors column 2 (right).



4. Select Maintenance from the Main Menu.

Alignment

Frequency:

❒ Semi-annually

Materials needed:

❒ Aligning point

❒ Stopper

❒ Gap gauge

1. Place the aligning point in the cupwell. Be sure that the point is firmly in place. Place the stopper on the back of the carrier between the two carrier shafts.

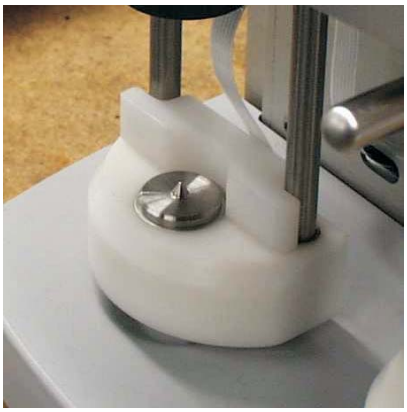


Figure 3. Aligning point in cupwell and stopper between carrier shafts

2. Slide the carrier up the carrier shafts until the stopper touches the bottom of the column.
3. Move the lever to the right into the Test position.
4. Check that the spindle tip is swinging freely and the points are aligned. You may need to stop the motion of the spindle by gently resting your finger against it in order to get a more accurate look at the alignment. If the points are not aligned, continue with cover removal and x/y adjustment.

Removing the covers

Materials needed:

- ❒ M2.5 hex screwdriver
- ❒ M2.0 hex screwdriver

To perform x/y adjustment and gap adjustment, you must first remove the platform and front and side covers on the analyzer.

5. Move the lever to the Load position. Remove the platform.

Figure 4. Remove the platform.

6. Using an M2.5 hex screwdriver, unscrew the two front screws (Figure 5a - A). Using an M2.0 hex screwdriver, unscrew the two screws located at the outer edges of the columns (Figure 5a - B). Using an M2.5 hex screwdriver, unscrew the two back screws (Figure 5b).

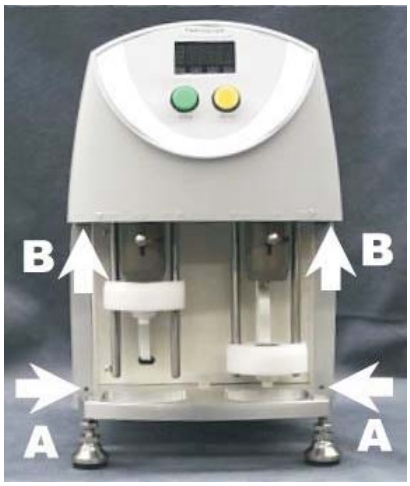


Figure 5a. Side cover screws

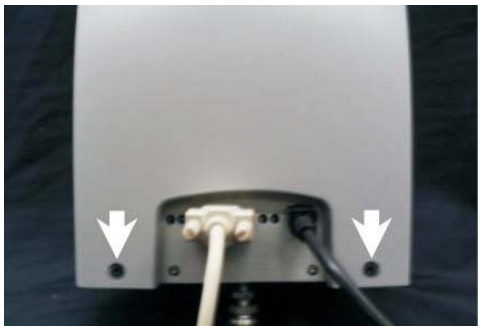


Figure 5b. Side cover screws (back of machine)

7. While holding down the front base of the machine with your thumbs to prevent tipping, use your fingers to loosen the side cover so that it can easily be lifted off. Remove the side cover.

Figure 6. Remove side cover.

8. Using an M2.0 hex screwdriver, unscrew the three screws that secure the front cover — one at bottom and two at sides.

Figure 7. Front cover screws

9. Cut off the nylon cable tie around the temperature controller bracket if one is present. Using an M2.5 hex screwdriver, unscrew the two screws on the back of the level base to disconnect the bracket holding the temperature controller. Remove the front cover.

Figure 8. Level base screws

X/Y adjustment

Frequency

❒ Whenever points are not aligned

Materials

❒ M2.5 hex screwdriver

❒ M3.0 hex screwdriver

❒ Aligning point and stopper

1. Remove the platform and side and front covers as described in the section named “Removing the covers” on page 11.
2. Check that the machine is level, and, if not, adjust using the thumbscrews on the bottom front (right and left) and back (center).
3. Make sure the aligning point and stopper are in their proper positions on the carrier and between the carrier shafts. (See Figure 3.)
4. Place the lever in the Test position.
5. Using an M2.5 hex screwdriver, loosen but do not remove the two screws on top of the column.

Figure 9. Screws for loosening column for x/y adjustment.

6. Using an M3.0 hex screwdriver, adjust the alignment through the two set screws on the front of the column.

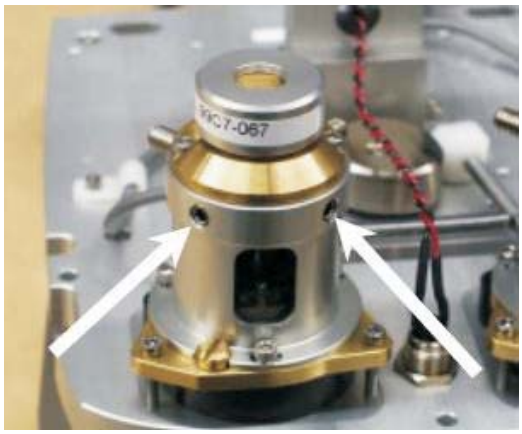


Figure 10. Adjust alignment using set screws

7. When the points are aligned and the spindle tip is still swinging freely, alternately tighten the two screws at the top of the column a little at a time,

ensuring that the column remains level. If you align the points but the spindle tip does not swing freely, you may need to replace the column.

Gap adjustment

Frequency:

❒ Semi-annually

Materials needed:

❒ Aligning point

❒ Stopper

❒ Feeler (gap) gauge

1. Move the lever into the Test position. Use the feeler gauge to verify that the gap between the points is between 0.004 and 0.012 inches (0.1 - 0.3 mm). If the gap is out of range, continue as follows. Otherwise, skip to Calibration.

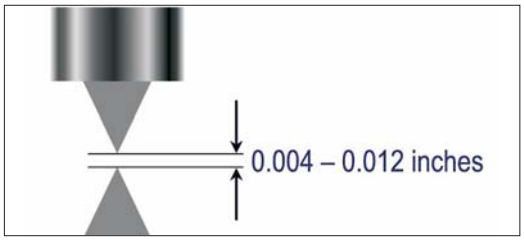


Figure 11. Aligning points with gap

2. Move the levers to the left into the Load position.
3. Remove the platform and side and front covers as described in the section named “Removing the covers” on page 11.
4. Check the level and make any necessary adjustments using the thumbscrews located at the bottom front (left and right) and back (center).
5. Return the lever to the Test position.

6. Raise and lower the spindle tip by turning the knob located on the top of the column.

Figure 12. Gap adjustment

7. When the gap is within range, move the lever back into the Load position. Adjusting the gap may affect the eTest reading. We recommend that you check the eTest value before continuing (see the section named “Electronics Testing (eTest)” beginning on page 5). Since coarse baseline adjustment through the column may be needed, leave the covers off until the baseline has been adjusted.

Calibration

Frequency:

❒ Semi-annually

Materials needed:

❒ Trimmer adjustment tool (provided by Haemoscope Corp.)

❒ Disposable pin

❒ Calibration spring

1. Note the rated displacement range (e.g., 20.0 ± 0.2 mm) stamped on the outside of the calibration spring.

2. Place a disposable pin firmly into the hole located on top of the spring.

Figure 13. Calibration spring with disposable pin

3. Place the calibration spring into the carrier, making sure the base of the spring is parallel to the carrier (not necessarily flush) and that the hole located on the bottom of the spring is facing forward.

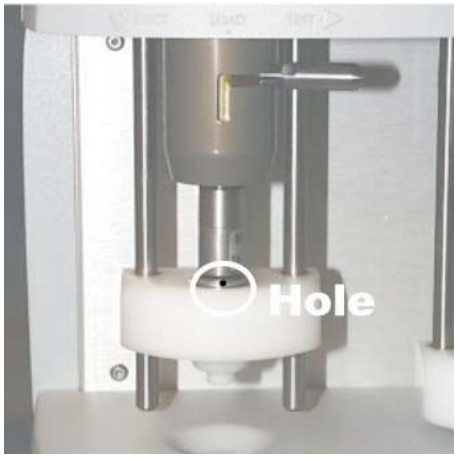


Figure 14. Calibration spring in cup.

4. With the lever in the Load position, while making sure the spring is standing straight in the carrier, slowly raise the carrier until the pin slips onto the spindle tip and locks into place.
5. Move the lever to the Test position.
6. Turn on the yellow motor switch (if a manual switch).
7. Check that the spring is vibrating. If it seems stiff, slide the carrier down the carrier shafts slightly (usually 1-2 mm) until the spring can move. Be careful not to pull down too hard or too fast, since the column is very delicate, especially in Test mode.
8. Select the channel and click Calibrate.

9. Enter the standard stamped on the calibration spring when prompted.

10. If the values for the minimum (min) or maximum (max) are 0 or 4095, adjust the spring using a straightened paper clip or pointed jewelers screwdriver inserted into the small hole located on the bottom of the spring. Be sure that the bottom of the spring remains parallel to the carrier as you adjust. Turning to the right raises the number, to the left lowers it.

Figure 15. Spring position adjustment

11. Check that the millimeters (mm) value displayed by the program matches the standard on the spring. If any adjustment is needed, use the trimmer adjustment tool to turn the screw labeled CAL on the back of the machine that corresponds to the channel you are adjusting. The analyzer is labeled with arrows indicating which way to turn the screw to increase the reading. See Figure 16.

Figure 16. Calibration and Baseline adjustment.

After adjusting the number so that it is within range, if the computer does not issue a message that the calibration is OK, return to the Maintenance menu, and reselect Spring Calibration, repeating this sequence until the computer issues a message that says:

```
Calibration is OK
```


Removing the spring

When calibration is completed, move the lever to the Load position, then down into the Eject position. Slide the carrier down the shaft and lift the spring out of the carrier.

eTest

Frequency:

❒ Daily (see further description on page 2 under “General quality control.”)

Materials needed:

❒ Trimmer adjustment tool (provided by Haemoscope Corp.)

1. Select a channel and click eTest.
2. Move the lever to the Test position.
3. Wait until the program issues the eTest status.

Message	Cause/Remedy
Not at equilibrium	It might be due to environmental factors or too much vibration. The analyzer might be unsteady and should be stabilized.
eTest out of range	Adjust it with the trimmer adjustment tool using the adjusting screws on the back of the analyzer labeled BASE that correspond to the column you are working on. See figure 17. The analyzer is labeled with arrows indicating which way to turn the screw to increase the reading. Turn in the opposite direction to decrease it.

When the reading is within the normal range of 1800-2300, the computer issues the message:

```
eTest is OK
```

If the eTest is OK, check the next channel until all are tested before you begin running samples.

Baseline adjustment through column

The baseline adjusting screws on the back of the analyzer provide a fine adjustment. If the baseline value cannot be adjusted through the baseline adjusting screws on the back of the analyzer, coarser adjustment is needed through the column before fine adjustment can be made.

Materials needed:

- ❒ M2.5 hex screwdriver
- ❒ Flathead screwdriver

1. If the covers are in place, remove them according to the instructions in the section named “Removing the covers” on page 11.
2. Make sure that the potentiometer on the back of the analyzer (labeled Base) is centered before adjusting the baseline through the column. You should be able to adjust it 7 turns in either direction.
3. Using an M2.5 hex screwdriver, loosen the three screws on the upper column just enough to be able to turn the gold eccenter screw with a flat head screwdriver.

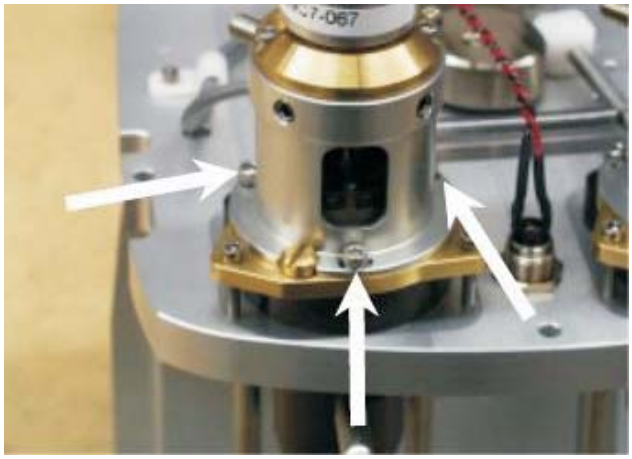


Figure 17. Upper column screws

4. With the lever in Test position, turn the gold eccenter screw to adjust the eTest (min) reading to 2000±200 on the computer. Turning the screw clockwise raises the value, counterclockwise lowers it.

Figure 18. Gold eccenter screw

5. Tighten the three upper column screws, alternating among the screws to keep the column level.
6. Check the eTest (min) value and make any minor adjustments through the fine eTest adjustment screws on the back of the analyzer.
7. Move the lever to the Load position.

Cleaning the Carriers

Frequency:

❒ As needed, but no less than semi-annually

Materials needed:

❒ M2.0 hex screwdriver

❒ Cotton swabs

❒ Rubbing alcohol

1. Turn off the TEG® analyzer
2. Remove the platform (see “Removing the covers” on page 11).
3. Slide the carrier all the way down until it drops off the carrier shafts.
4. Remove the carrier and ribbon cable from the TEG® analyzer. Disconnect the ribbon cable from the carrier.
5. Clean the ribbon cable with a cotton swab and rubbing alcohol.
6. Using an M2.0 hex screwdriver, remove the screws on the bottom of the carrier.
7. Remove the botton plate of the carrier.
8. Use a cotton swab and rubbing alcohol to clean the carrier and the carrier bottom plate, making sure to clean the connector for the ribbon cable.

Temperature Test

Frequency:

❒ Semi-annually

Materials needed:

❒ Disposable cup

❒ Tap water (not sterile or distilled)

❒ Wire sensor of the Fluke 51 K/J thermometer variety

1. Place a disposable cup in each cupwell and fill with tap water. Let stand for 10 minutes.

2. Insert the wire sensor into the water. Check the temperature of the tap water, allowing sufficient time (approx. 1 minute) for the sensor to equilibrate. The temperature difference between the water temperature and the control display should not exceed ± 0.5°C.
3. If the tolerance is out of range, adjust the Input Offset Correction. Simultaneously press the up arrow (B in Figure 19) and Enter key (C in Figure 19) to access the secondary menu of the temperature controller.
4. If the temperature is out of range for the left carrier, scroll through the menu by pressing the Index key (A) until you reach the display "InC1." If the temperature is out of range for the right carrier, scroll through the menu by pressing the Index key (A) until you reach the display "InC2."

Temperature Reading	Adjustment
Fluke temperature reading **higher** than display on temperature controller	Raise value of the Input Offset Correction.
Fluke temperature reading **lower** than display on temperature controller	Lower value of Input Offset Correction.

To adjust the value of the Input Offset Correction, use the up and down arrows (B).

5. Press the Enter key (C). The display flashes once.
6. Press the Index key (A) until you return to the Home menu.

Setting the Temperature

To set the temperature on the TEG® analyzer, use the control buttons on the temperature controller.

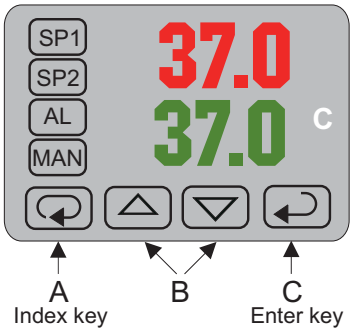


Figure 19. Temperature controller

As you set the temperature, observe the top reading which represents the temperature. The columns are indicated as SP1 for column 1 (left) and SP2 for column 2 (right) below the temperature reading. Remember to wait for the

machine to adjust to your new temperature before using the column you have set. You can change either column or both.

To set column 1 temperature only:

1. Press the index key (A in Figure 19) once. The column display changes to SP1. Using the up and down arrows (B), set to the desired temperature.

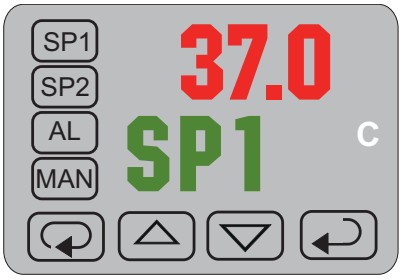


Figure 20. Temperature controller displaying column 1 setting.

2. Press the enter key (C). The display flashes once.

3. Press the index key (A). The column display changes to SP2. Press the index key (A) again to exit. The actual temperature is displayed for both columns. Wait until the display readout matches the temperature you set within one half degree before using column 1.

To set column 2 temperature only:

1. Press the index key (A in Figure 19) once. The column display changes to SP1. Press the index key (A) again. The column display changes to SP2. Using the up and down arrows (B), set to the desired temperature.

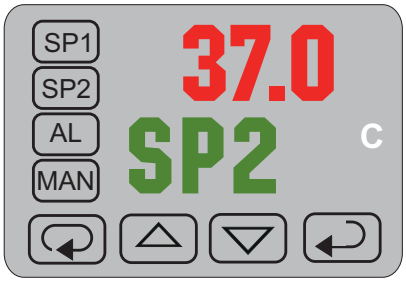


Figure 21. Temperature controller displaying column 2 setting.

2. Press the enter key (C). The display flashes once.

3. Press the index key (A) again to exit. The actual temperature is displayed for both columns. Wait until the display readout matches the temperature you set within one half degree before using column 2.

To set temperature for both columns:

1. Press the index key (A in Figure 19) once. The column display changes to SP1. Using the up and down arrows (B), set to the desired temperature.
2. Press the enter key (C). The display flashes once.
3. Press the index key (A). The column display changes to SP2.
4. Using the up and down arrows (B), set to the desired temperature. Press the enter key (C). The display flashes once.
5. Press the index key (A) to exit. The actual temperatures are displayed for both columns. Wait until the display readout matches the temperature you set within one half degree before using either column.

Replacing Components

Replacing a Column

This section describes how to replace a faulty column on the TEG® analyzer.

This procedure should only be done on machines with serial numbers ending with a "B." If the serial number (found on the label on the back of the machine) on your machine does not end in "B," please contact your local service representative.

Materials needed:

- ❒ ¼-inch open-end wrench
- ❒ M2.5 hex screwdriver
- ❒ M2.0 hex screwdriver
- ❒ M3.0 hex screwdriver
- ❒ Torque wrench (inch pounds)

1. Remove the covers from the machine, following the instructions under "Removing the covers", beginning on page 11.

2. Using a ¼-inch open-end wrench, unscrew and remove the lever.

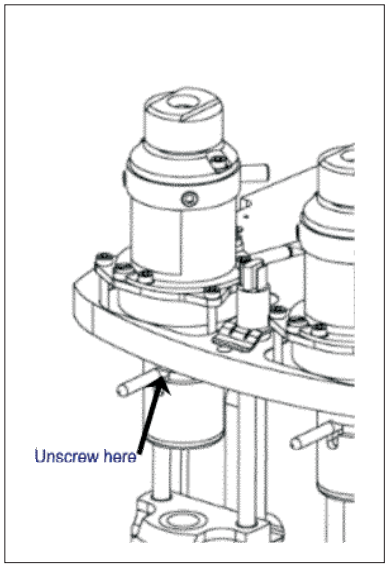


Figure 22. Unscrew lever

3. Disconnect the ribbon cable that connects the column to the small circuit board on the top plate from the column.

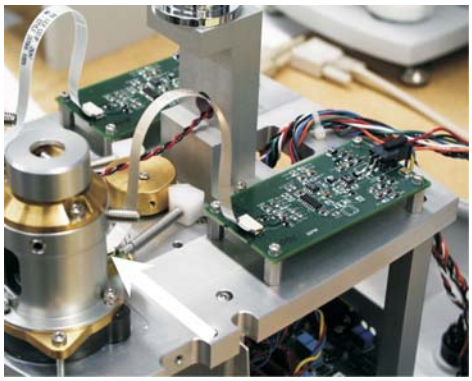


Figure 23. Disconnect ribbon cable

4. Using an M2.5 hex screwdriver, unscrew and remove the three screws on

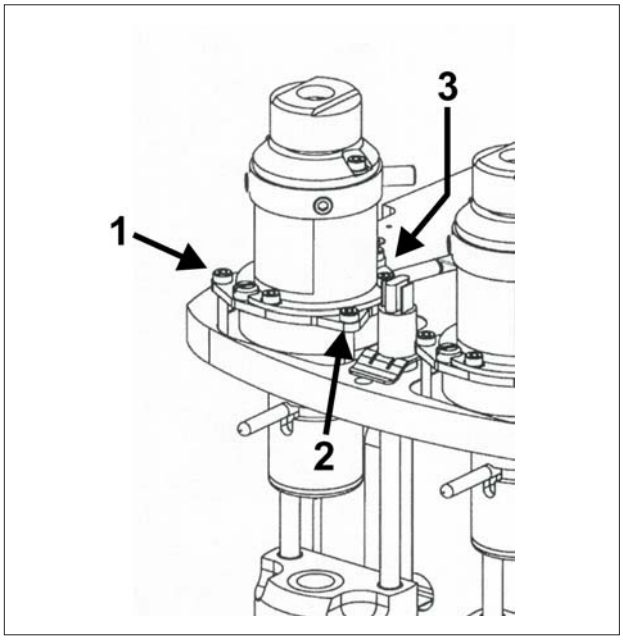


Figure 24. Upper base and drive ring

the upper base.

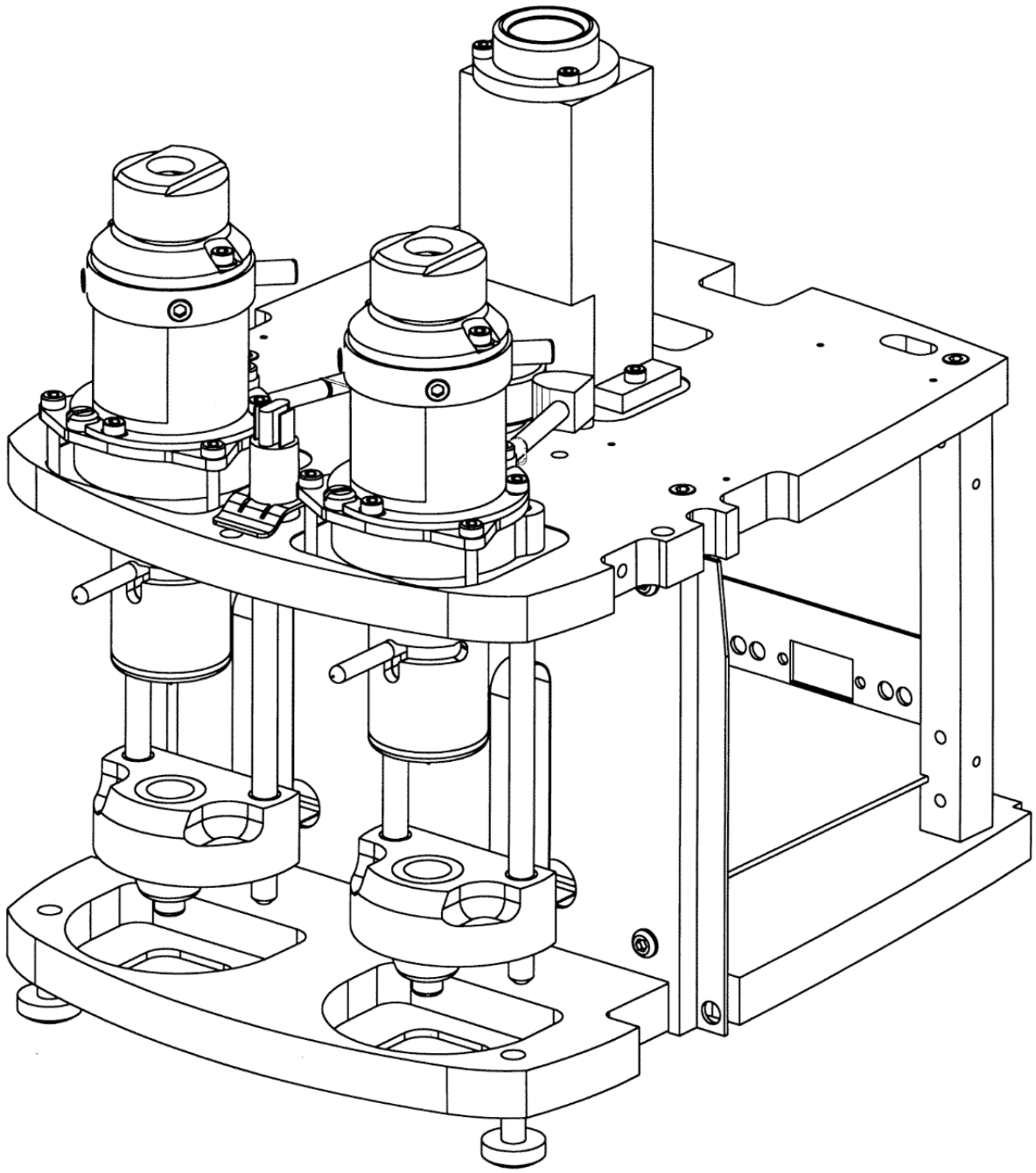
5. Lift the column out of the machine and set aside.
6. Making sure that the column is straight and that the lever is not attached to the column, insert the new column into the machine. There is not much clearance, so make sure you are lowering the column straight in.
7. Once the column has been inserted, level the machine using the thumbscrews located at the bottom front (left and right) and back (center) of the machine.
8. Using the open-end wrench, screw the lever back into the column.
9. Procedure for screwing in the upper column base using the torque wrench (see Figure 24):

   - Begin with screw #1 and tighten until the dial moves. Repeat with screw #2, then screw #3.
   - Tighten screw #1 to 0.25 in/lbs. Repeat with screw #2, then screw #3.
   - Tighten screw #1 to 1.0 lbs. Repeat with screw #2, then screw #3.
   - Tighten screw #1 to 2.0 in/lbs. Repeat with screw #2, then screw #3.
   - Check the alignment, gap, calibration, and eTest, and replace covers before running samples.

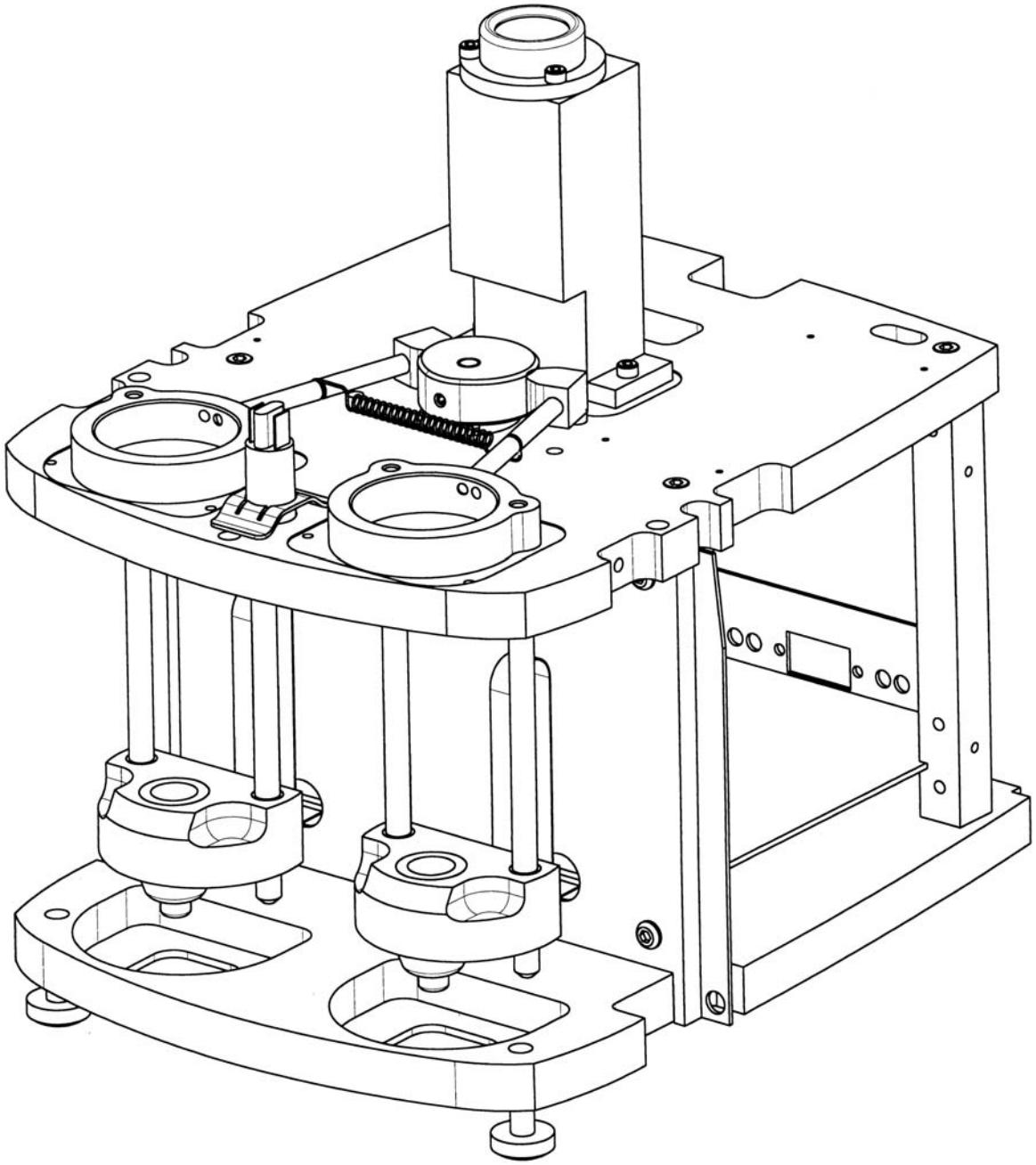
Mechanical Illustrations

This section contains blow-ups of various parts of the TEG® analyzer that detail internal components.

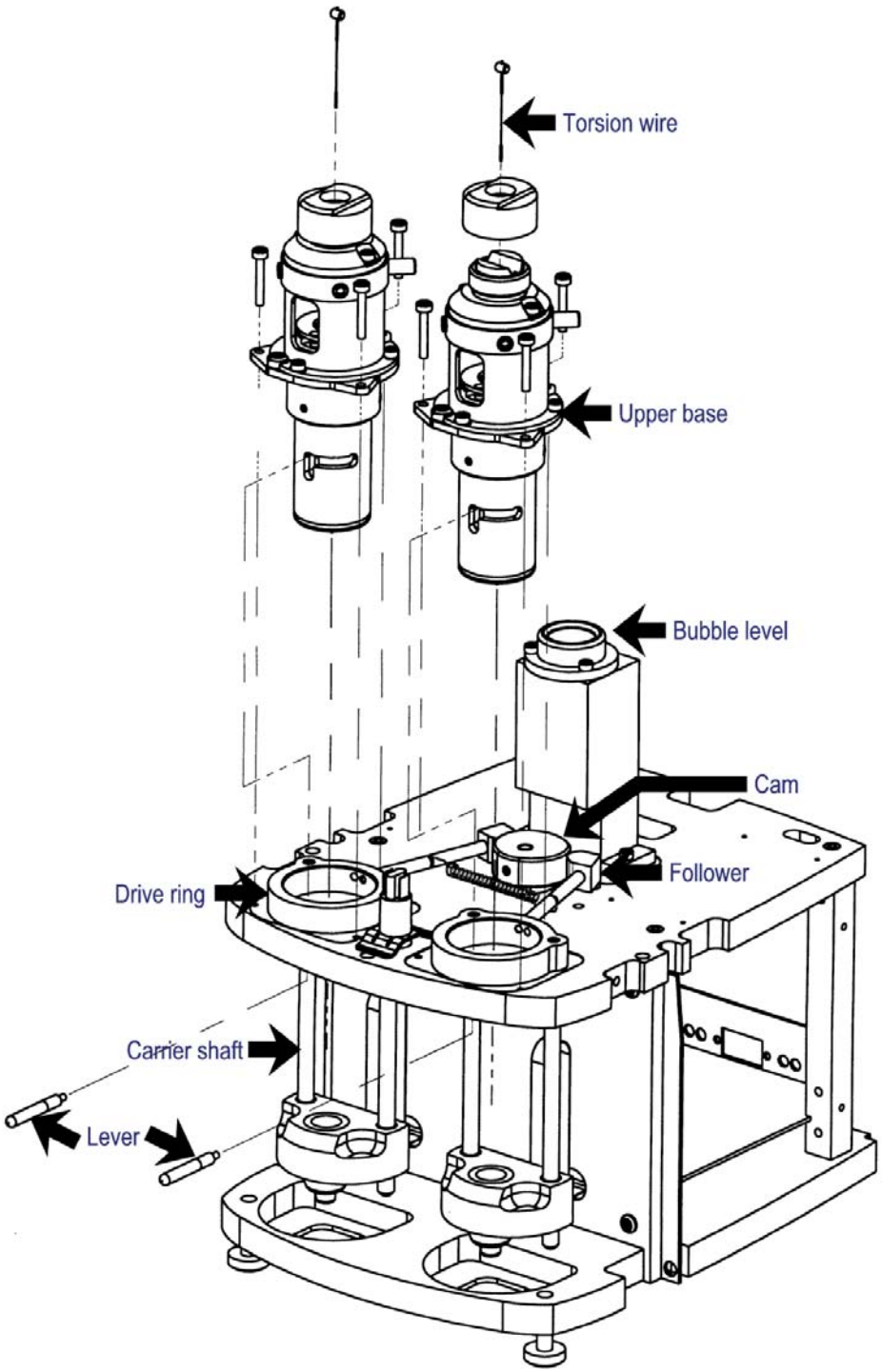
TEG® Analyzer



Chassis with Carriers and Drive Ring



Exploded Assembly



Appendix A

Return Shipping Instructions

Obtain RMA and provide PO

Before returning your TEG® analyzer to Haemoscope, you must obtain a Return Material Authorization (RMA) number from Haemoscope, which must appear on the shipping label and/or the outside of the box.

Please be ready to provide the following information when calling for the RMA:

- ❒ The reason for return
- ❒ The serial number of the unit
- ❒ The date of purchase

Our receiving room will not accept freight collect shipments. A purchase order number is required for return freight shipping costs, whether or not your TEG® analyzer is under warranty.

Package properly

The analyzer must be properly packaged for shipping. You will be charged for any repairs caused by improper packaging, which limits claims against the transporting agency.

Required materials:

- ❒ Original shipping box
- ❒ Original molded styrofoam support forms. If you no longer have the original shipping materials, please contact Haemoscope so that we can send replacements.
- ❒ Tape

To minimize damage during shipping, please adhere to these guidelines:

1. Move the levers into the Load position. **If the analyzer is received at Haemoscope in the test position, a $500 charge will be automatically added to the P.O.**
2. Raise both carriers until they touch the bottom of the columns.
3. Place one end of a piece of tape on the bottom of each carrier, wrap it over the levers, and attach the other end to the front of the machine. This prevents the carriers from sliding down and keeps the levers securely in place during shipping.
4. Raise the feet so that the machine fits into the protective foam.
5. Tape the back foot to keep it in place.
6. Slide the protective foam sides around the machine.
7. Place the machine into the box with the level bubble facing up.
8. Ship the TEG® analyzer specifying Overnight Delivery. To limit possible shipping damages, we recommend that you do not ship your TEG® unit over the weekend.

